

# FACT SHEET



## Farmer's Mutual Cooperative Company

Hospers, Iowa

September 1998

### INTRODUCTION

The U.S. Environmental Protection Agency (EPA) and the Iowa Department of Natural Resources (IDNR) continue to monitor groundwater contamination at the Farmer's Mutual Cooperative Company (FMCC) site in Hospers, Iowa. This fact sheet provides an update on site activities.

### SITE BACKGROUND

The FMCC site is located in the northwest corner of Hospers, Iowa on both sides of Highway 60. The FMCC has been in continuous use as an agricultural supply and service business since 1908.

In 1984, herbicides and volatile organic compounds (VOCs) were detected in groundwater from shallow city wells near the FMCC. As a result of the contamination, use of three city wells was restricted and then prohibited completely in 1988. The VOCs in groundwater were attributed to past practices of grain fumigation using carbon tetrachloride at the FMCC facility and an adjacent property. Additional sampling showed that the FMCC was the primary source of the herbicides in the groundwater, although no specific source was found.

The FMCC, in cooperation with EPA and IDNR, conducted a series of

investigations at the site to identify potential contaminant sources and determine the extent of groundwater contamination.

Information from these investigations was evaluated by EPA and, in 1992, EPA and IDNR proposed a method to address the contamination. After receiving input from the community, EPA and IDNR decided on a remedy of natural attenuation and monitoring with a drinking water contingency.

In some environments, biological actions occur in groundwater that reduce the level of contamination. This is called natural attenuation. The conditions at this site are favorable for natural attenuation and, when EPA and IDNR selected the remedy for the site, VOCs in the groundwater had already been substantially reduced as a result of natural attenuation.

### DRINKING WATER CONTINGENCY

Before the contamination was found in the shallow wells, the city of Hospers blended groundwater from the shallow wells with groundwater from deeper wells. After the contamination was discovered in the shallow wells, only the deep wells were used to supply water to the residents of Hospers. In the event the city of Hospers wanted to use the shallow wells, the

selected remedy provided a contingency that would allow the city to safely blend shallow groundwater with deep groundwater.

In 1993, the city requested use of the shallow wells. This request activated the drinking water contingency described above. Test pumping was performed by FMCC in 1993 and 1994. The results of the test pumping demonstrated that the contaminants from FMCC generally were present at levels that would allow 50% blending of the city's shallow well water with the city's deep well water. However, nitrate was found in the groundwater at nearly three times the drinking water standard. This level of nitrate would severely limit blending, and treating the shallow groundwater to eliminate the nitrate would be extremely expensive.

## **CONNECTION TO THE RURAL WATER DISTRICT**

Following the completion of the test pumping, the city had concerns about regaining use of their shallow wells and did not seek to implement a blending program.

In late 1996, the city connected to the Hospers Rural Water System #1 for a water supply. In July and August of 1997, the three shallow city wells were plugged and permanently abandoned. These actions eliminated the need for the drinking water contingency.

## **MONITORING**

Groundwater and surface water monitoring, also part of the selected remedy, began in 1996. The purpose of

the monitoring is to ensure that contamination is not spreading or increasing. The groundwater monitoring system for the site consists of seven monitoring wells. Initially, surface water monitoring consisted of upstream and downstream sampling on the nearby West Branch Floyd River. Monitoring indicates the river is not being impacted by the contamination, so the surface water monitoring has been discontinued. To date, the FMCC has conducted monitoring events in January 1996, July 1996 and November 1997. The site monitoring program includes the following site-specific contaminants:

### Herbicides

- Alachlor (Lasso)
- Atrazine
- Cyanazine (Bladex)
- Metolachlor (Dual)
- Metribuzin (Sencor)
- Trifluralin (Treflan)

### Petroleum

- Benzene
- Toluene
- Ethylbenzene
- Xylenes

Monitoring has detected the herbicides atrazine, metolachlor, and metribuzin in groundwater, but only atrazine has been found above the drinking water standard of 3 parts per billion (ppb). Atrazine was found at 4.9 ppb in one of the monitoring wells during two separate sampling events.

The petroleum contaminants (benzene, toluene, ethylbenzene and total xylenes) were originally addressed as a separate

project under the IDNR's Underground Storage Tank program, but were included with the herbicides in one monitoring program. The petroleum contaminants have been detected in the groundwater but only benzene has been found above the drinking water standard of 5 ppb. Benzene has been detected at 548 ppb in January 1996, and 614 ppb in July 1996. During the last sampling event in November 1997, benzene was not detected in the groundwater.

### **LONG TERM ACTIVITIES**

Groundwater and surface water sampling demonstrate that natural attenuation is occurring at this site. Although atrazine, alachlor, and metolachlor continue to be detected in the groundwater, the levels of contamination are slowly declining. The sampling also shows that the contamination is not spreading. Furthermore, the city has removed the threat of exposure to contaminated groundwater by connecting to the Hospers Rural Water System #1 for a water supply and plugging and permanently abandoning their three shallow city wells. Groundwater sampling continues to be conducted to monitor the effectiveness of natural attenuation.

EPA will conduct a review of this site in the year 2000. The purpose of this review is to ensure that the remedy continues to protect human health and the environment.

### **ADDITIONAL INFORMATION**

If you have any questions or comments about this fact sheet, please contact either of the following:

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